Materials Engineering Branch

TIP*

No. 032 Transfer Films and Double-sided Tapes

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In many spacecraft applications there is a need for bonding a thermal control film onto a substrate. One method of achieving this is through the use of a transfer film adhesive, such as 3M Company's 467MP or Y966.

Saint-Gobain Performance Plastics Corporation[1] markets a two-sided adhesive pressure sensitive tape. It is designated as M-69[2] and is a 1.0 mil thick polyester film with 1.5 mils of acrylic adhesive on each side. It is attractive because it has some advantages over the transfer films. These are: greater ease of application and more uniform adhesive thickness. Adhesion strength to stainless steel at room temperature for the three adhesives and vacuum outgassing data at 175° C are:

Test	M-69	467MP	Y966
ASTM D 3330	30 oz. in.	47 oz. in.	53 oz. in.
ASTM E 595-93	0.73% TML	l.03% TML	0.59% TML
ASTM E 595-93	0.06% CVCM	0.02% CVCM	0.04% CVCM
Adhesive Thickness	3 mils	2.3 mils	2.3 mils
Service Range	-29 to 163°C	-35 to 149°C	-40 to 149°C

[1] Formerly The Chemical Hard Rubber Company
[2] Formerly Temp-R-Tape M-69